

4D. INJURIES IN STONE MINING

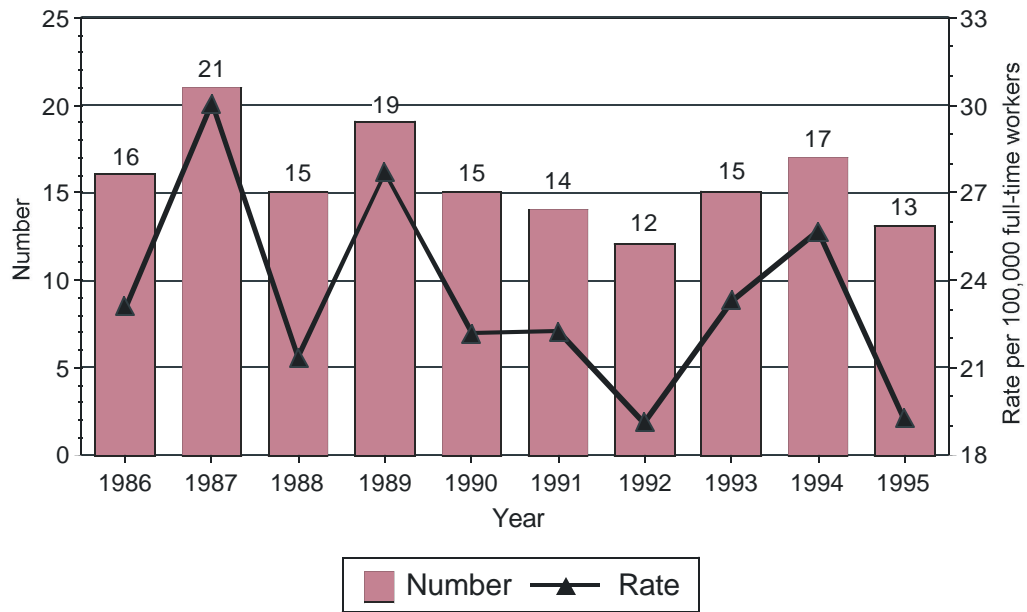


Figure 4D-1.—Stone operators: number and rate (per 100,000 workers) of fatal injuries by year, 1986-1995. (Source: MSHA data)

Table 4D-1.—Stone operators: number and average annual rate (per 100,000 workers) of fatal injuries by subunit, 1986-1995.

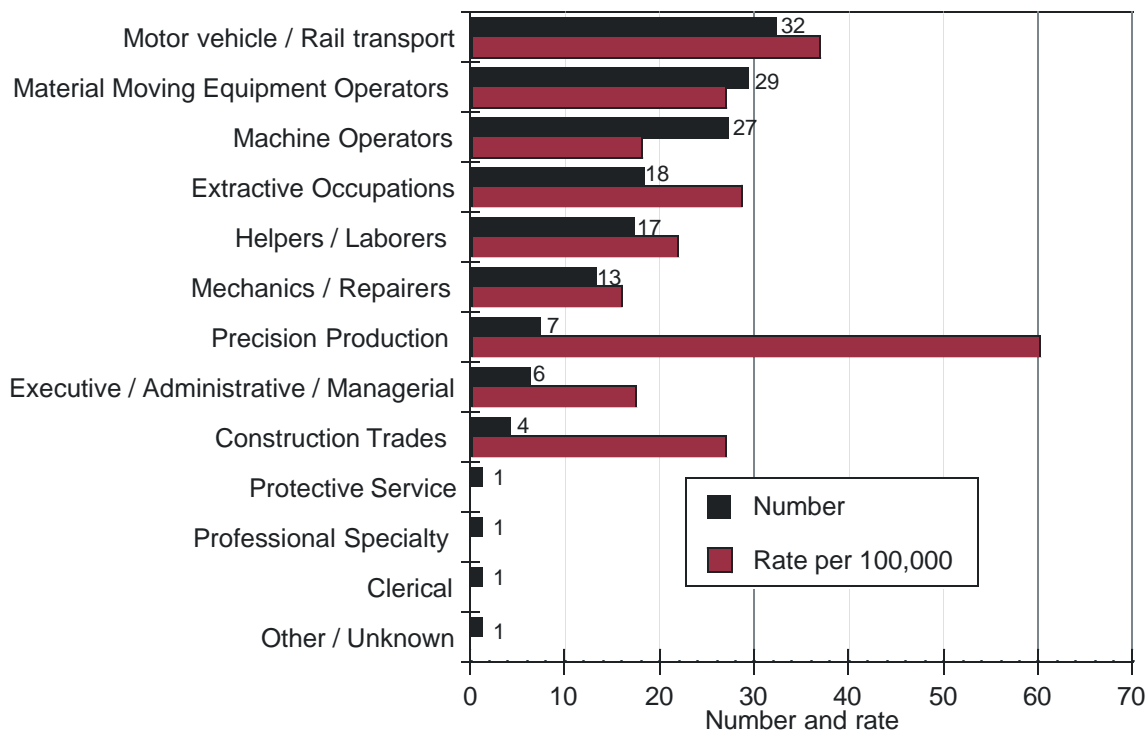


Figure 4D-2.—Stone operators: number and rate (per 100,000 workers) of fatal injuries by U.S. Bureau of the Census Occupation Division, 1986-1995. (Source: MSHA data)

<u>Mining operation</u>	<u>Number, 1986-1995</u>	<u>Average annual rate per 100,000 full-time workers</u>
Underground mines:		
Underground operations	12	77.9
Surface operations	5	124.5
Surface mines:		
Strip	99	34.6
Dredge	0	*
Independent shops/yards	0	*
Mill	41	11.4
Office	0	*
Total	157	20.3

* Rate not calculated because there were fewer than 3 fatalities

Source: Mine Safety and Health Administration data.

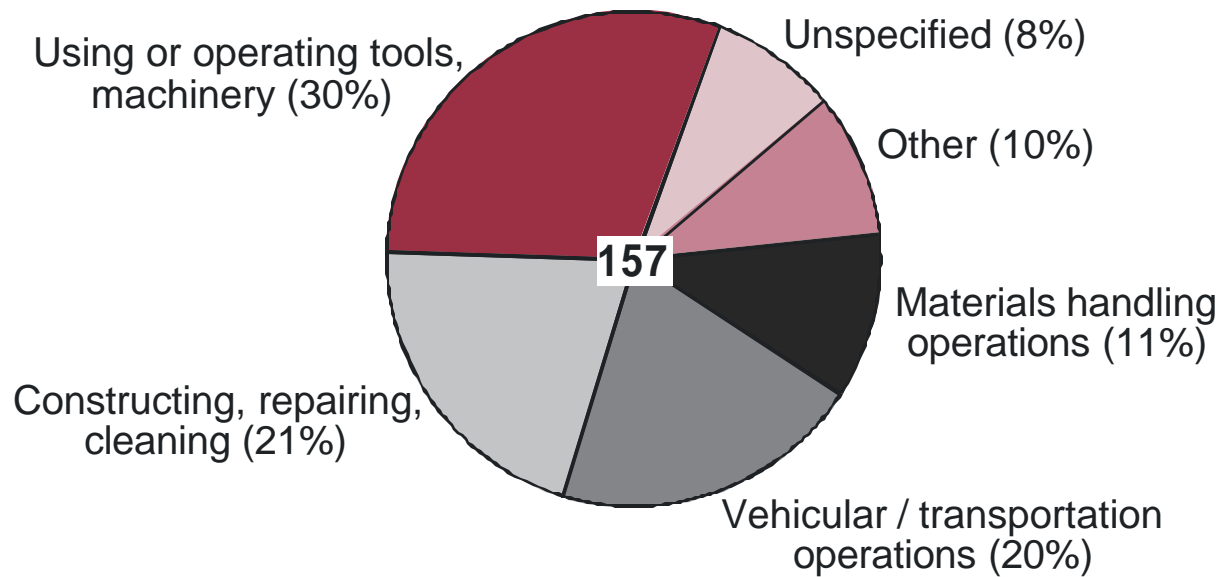


Figure 4D-3.—Stone operators: number of fatal injuries by work activity, 1986-1995. (Source: MSHA data)

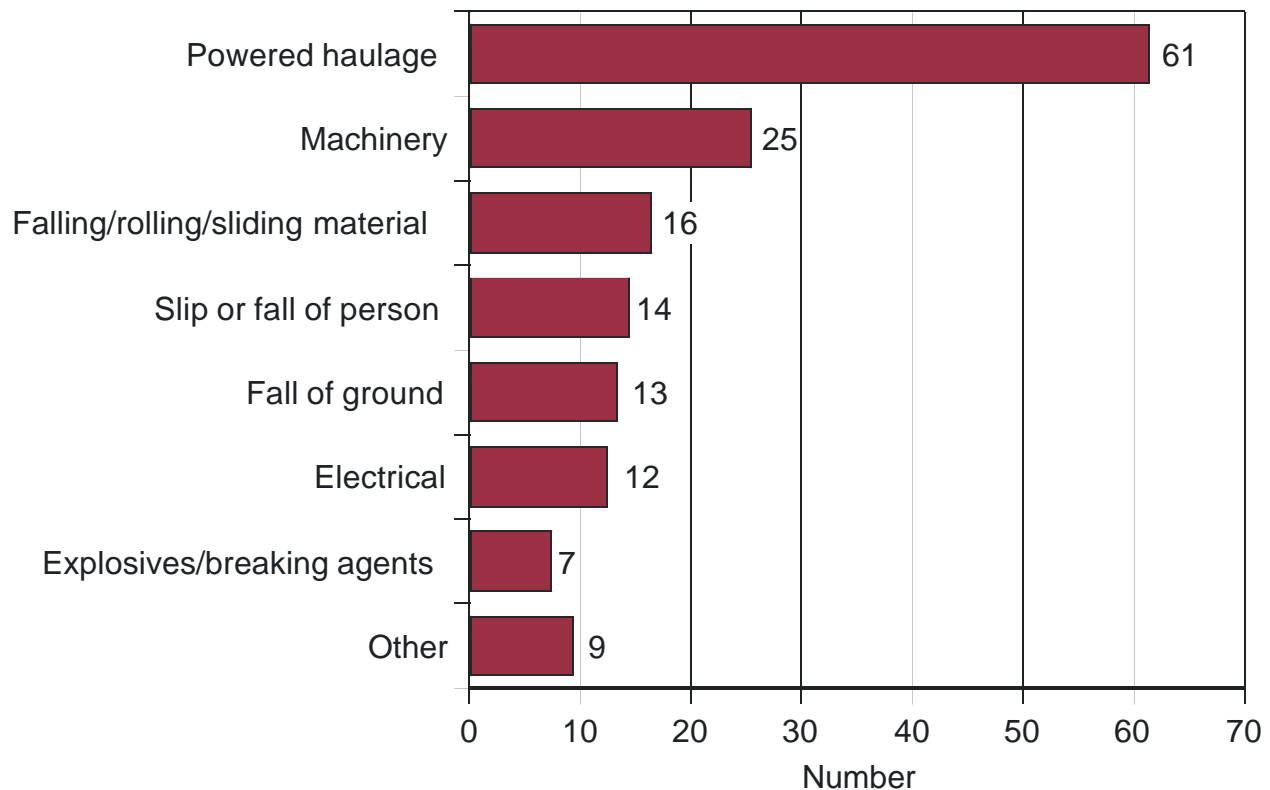


Figure 4D-4.—Stone operators: number of fatal injuries by MSHA accident classification, 1986-1995. (Source: MSHA data)

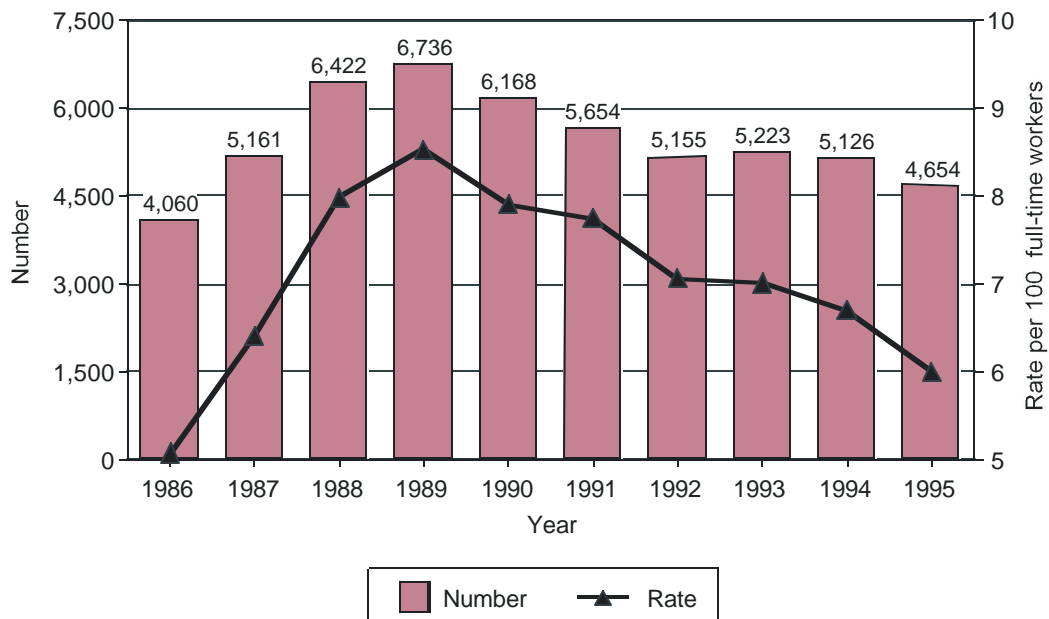


Figure 4D-5.—Stone operators: number and rate (per 100 workers) of nonfatal injuries by year, 1986-1995. (Source: MSHA data)

Table 4D-2.—Stone operators: number and average annual rate (per 100 workers) of nonfatal injuries by subunit, 1986-1995.

<u>Mining operation</u>	<u>Number, 1986-1995</u>	<u>Average annual rate per 100 full-time workers</u>
Underground mines:		
Underground operations	1,173	7.61
Surface operations	450	11.2
Surface mines:		
Strip	21,982	7.68
Dredge	93	6.11
Independent shops/yards	168	7.72
Mill	30,223	8.39
Office	270	0.26
Total	54,359	7.03

Source: Mine Safety and Health Administration data.

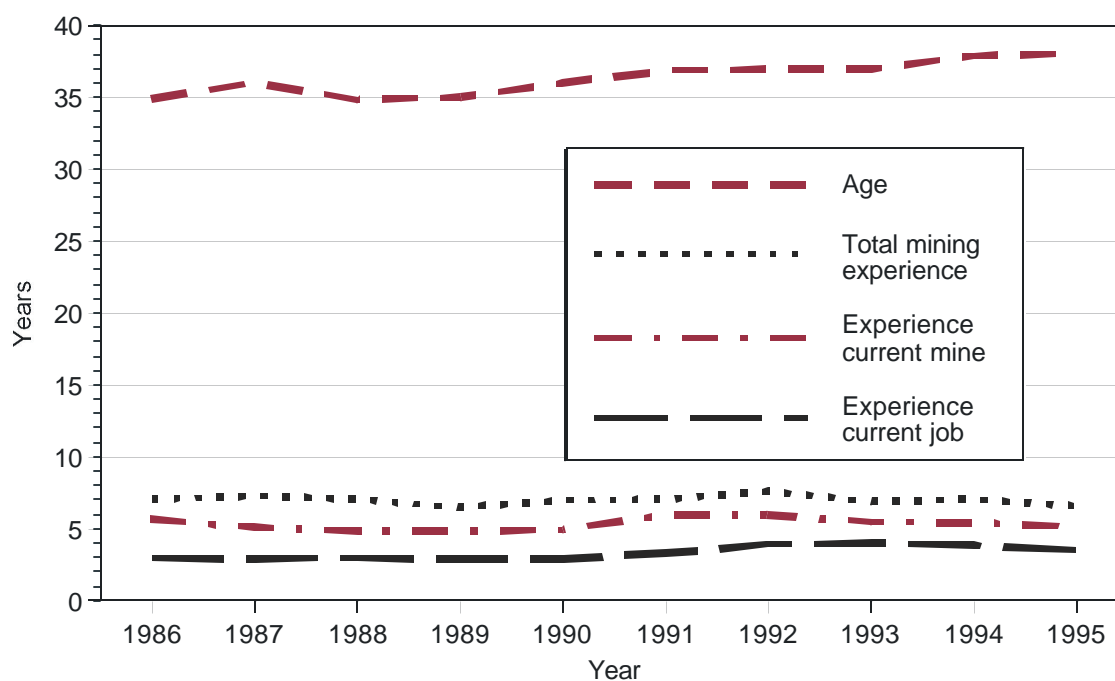


Figure 4D-6.—Stone operators: median values for age, total mining experience, experience in current mine, and experience in current job for workers with nonfatal injuries by year, 1986-1995. (Source: MSHA data)

Table 4D-3.—Stone operators: nonfatal injuries, 1986-1995, by nature of injury. Number of cases, percentage of cases with one or more lost workdays, mean days lost work per case, total days work lost for all cases, and statutory days charged for all cases.

Nature of injury	Number of cases	Lost workday cases (%)	Mean days lost work	Total days lost	Total statutory days
Sprains and strains	17,793	62.0	16.19	288,117	19,890
Fracture	5,080	53.9	23.51	119,430	44,278
Contusions	4,956	51.3	8.09	40,087	1,470
Lacerations	10,552	21.3	2.78	29,257	4,410
Hernia	564	78.2	27.25	15,367	22,050
Burn, heat	1,619	43.2	8.62	13,950	13,500
Amputation, enucleation	326	60.7	30.72	10,016	189,483
Crushing	955	42.0	8.77	8,375	3,950
Dislocation	296	64.2	21.65	6,407	0
Joint, tendon, or muscle inflammation or irritation	418	40.2	9.61	4,015	0
Burn, chemical	1,132	40.2	3.30	3,740	5,400
Noncontact electric arc burn	560	53.2	4.61	2,583	1,800
Abrasions	833	33.9	2.78	2,317	0
Electrical burn	57	61.4	21.79	1,242	0
Dust in eyes	1,616	21.7	0.66	1,073	0
Electric shock	72	63.9	14.22	1,024	0
Poisoning	217	41.5	4.36	946	0
Brain concussion	81	82.7	11.38	922	0
Other specified causes	938	46.6	10.92	10,243	1,800
Multiple injuries, unspecified	3,944	53.6	16.98	66,966	13,650
Other unspecified injuries	2,350	63.0	17.56	41,269	2,820
Total	54,359	48.4	12.28	667,346	324,499

Source: Mine Safety and Health Administration data.

Table 4D-4.—Stone operators: nonfatal injuries, 1986-1995, by work activity. Number of cases, percentage of cases with one or more lost workdays, mean days lost work per case, total days work lost for all cases, and statutory days charged for all cases.

Work activity	Number of cases	Lost workday cases (%)	Mean days lost work	Total days lost	Total statutory days
Materials handling	15,502	51.5	12.25	189,919	80,678
Constructing, repairing, or cleaning	11,347	44.1	12.03	136,518	98,815
Using or operating tools or machinery	15,021	39.9	8.75	131,505	81,181
Vehicular and transportation operations	5,876	61.7	17.35	101,949	45,020
Bodily movement	4,983	55.1	14.99	74,695	7,350
Other	1,229	55.8	18.47	22,696	10,605
Unspecified	401	66.6	25.10	10,064	850
Total	54,359	48.4	12.28	667,346	324,499

Source: Mine Safety and Health Administration data.

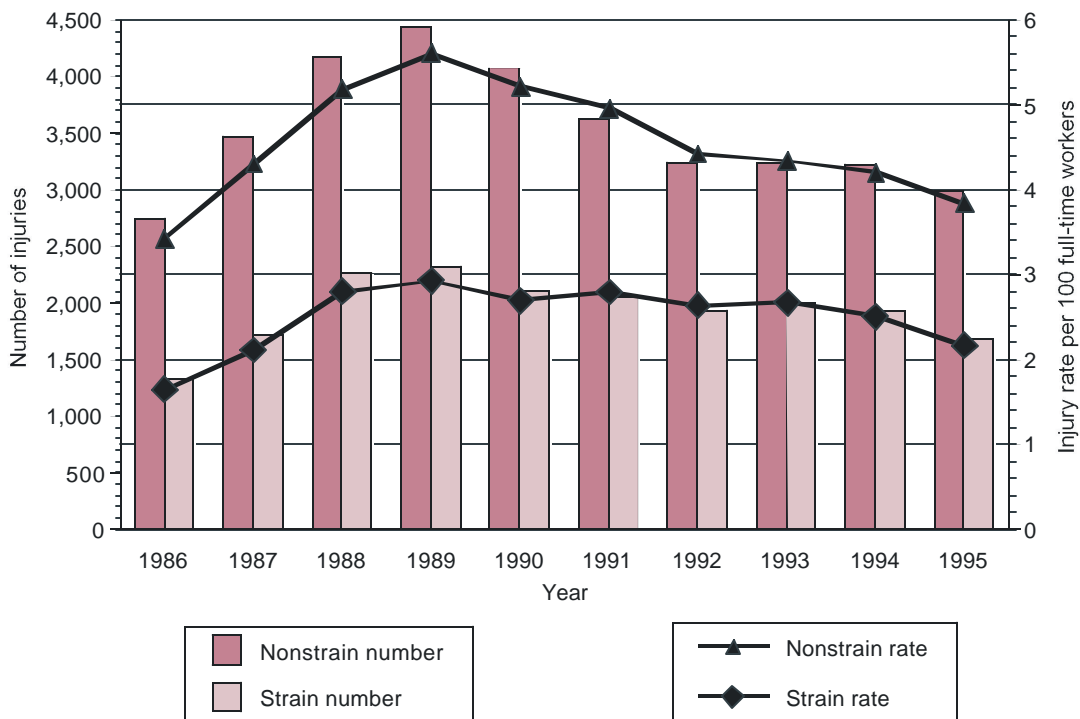


Figure 4D-7.—Stone operators: nonfatal injuries 1986-1995. Number and rate (per 100 workers) of strain and nonstrain injuries by year, 1986-1995. (Source: MSHA data)

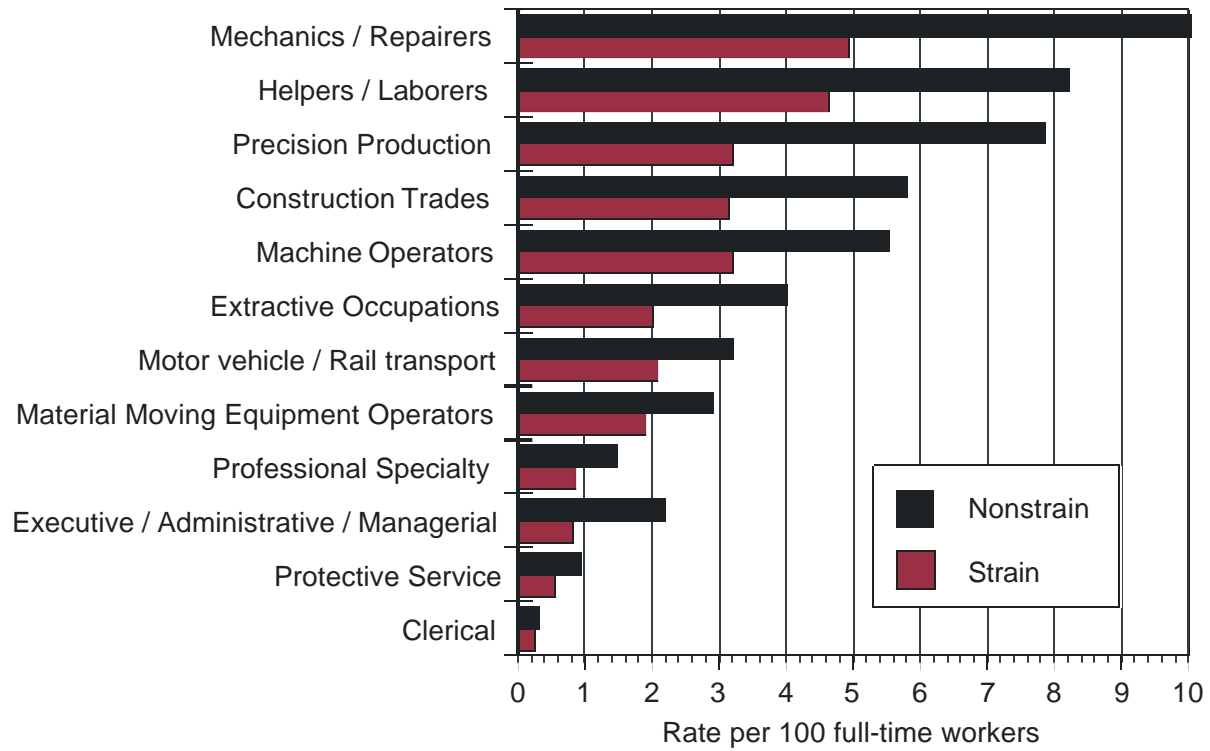


Figure 4D-8.—Stone operators: nonfatal injuries, 1986-1995. Rate (per 100 workers) of strain and nonstrain injuries by U.S. Bureau of the Census Occupation Division, 1986-1995. (Data on occupations were missing for 1,237 out of 54,360 cases (2.3%).) (Source: MSHA data)

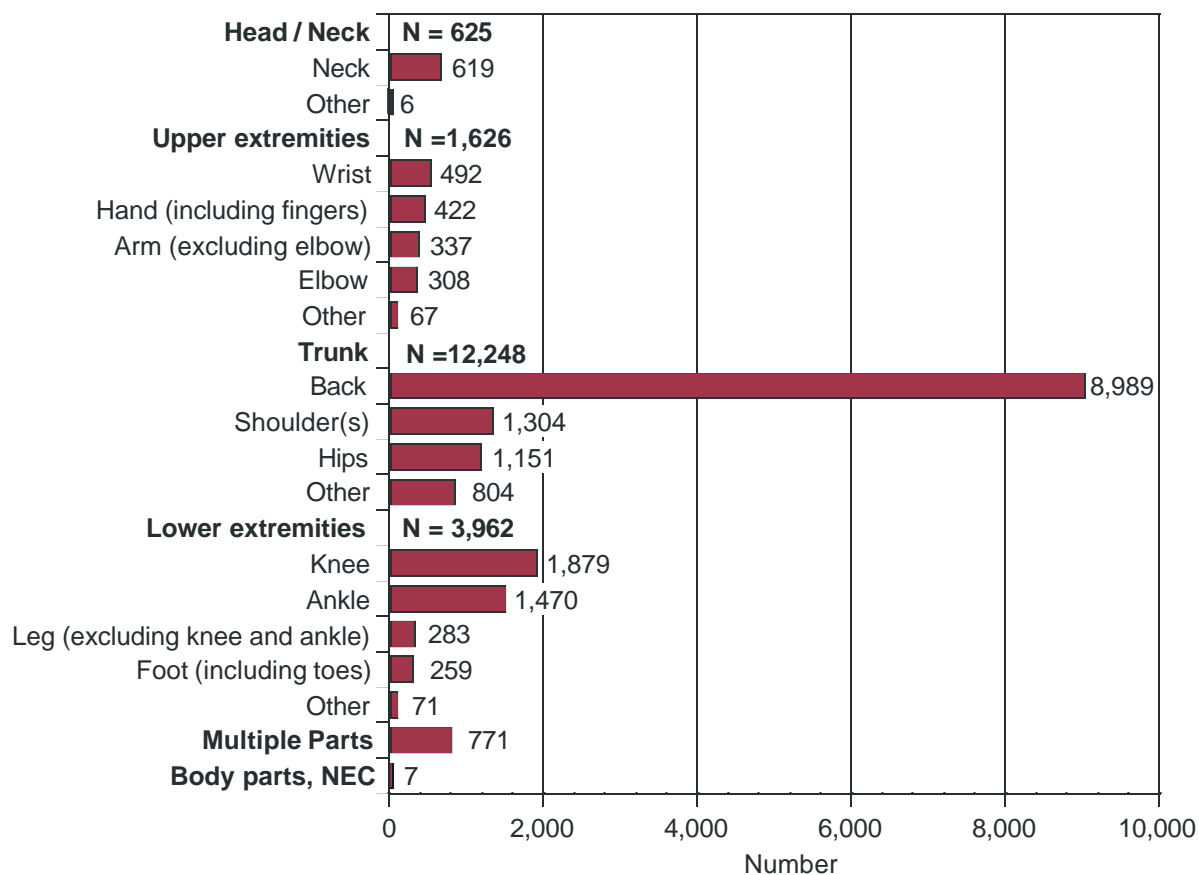


Figure 4D-9.—Stone operators: number of (nonfatal) strain injuries by body part injured, 1986-1995. (Source: MSHA data)

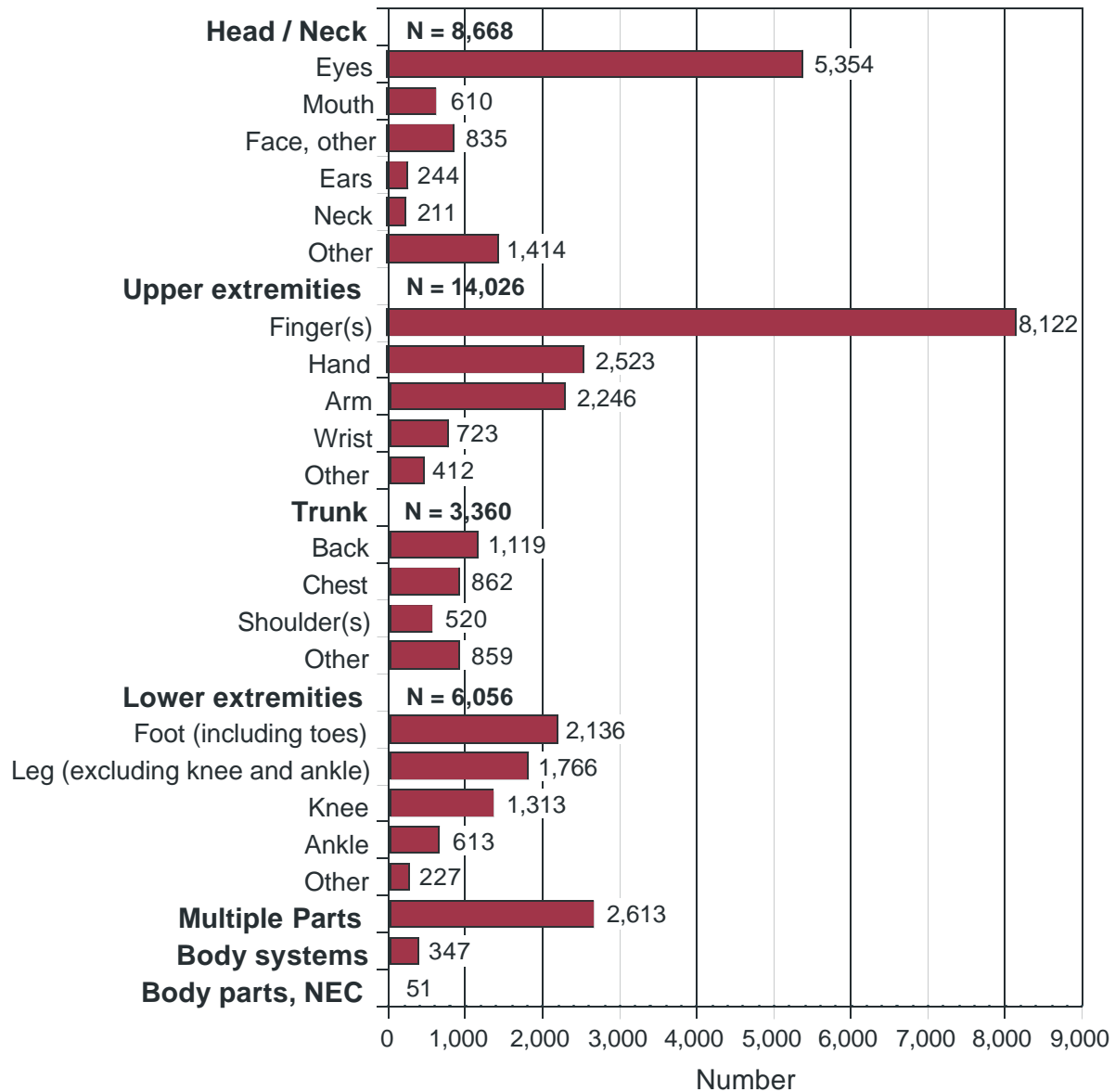


Figure 4D-10.—Stone operators: number of (nonfatal) nonstrain injuries by body part injured, 1986-1995.
(Source: MSHA data)

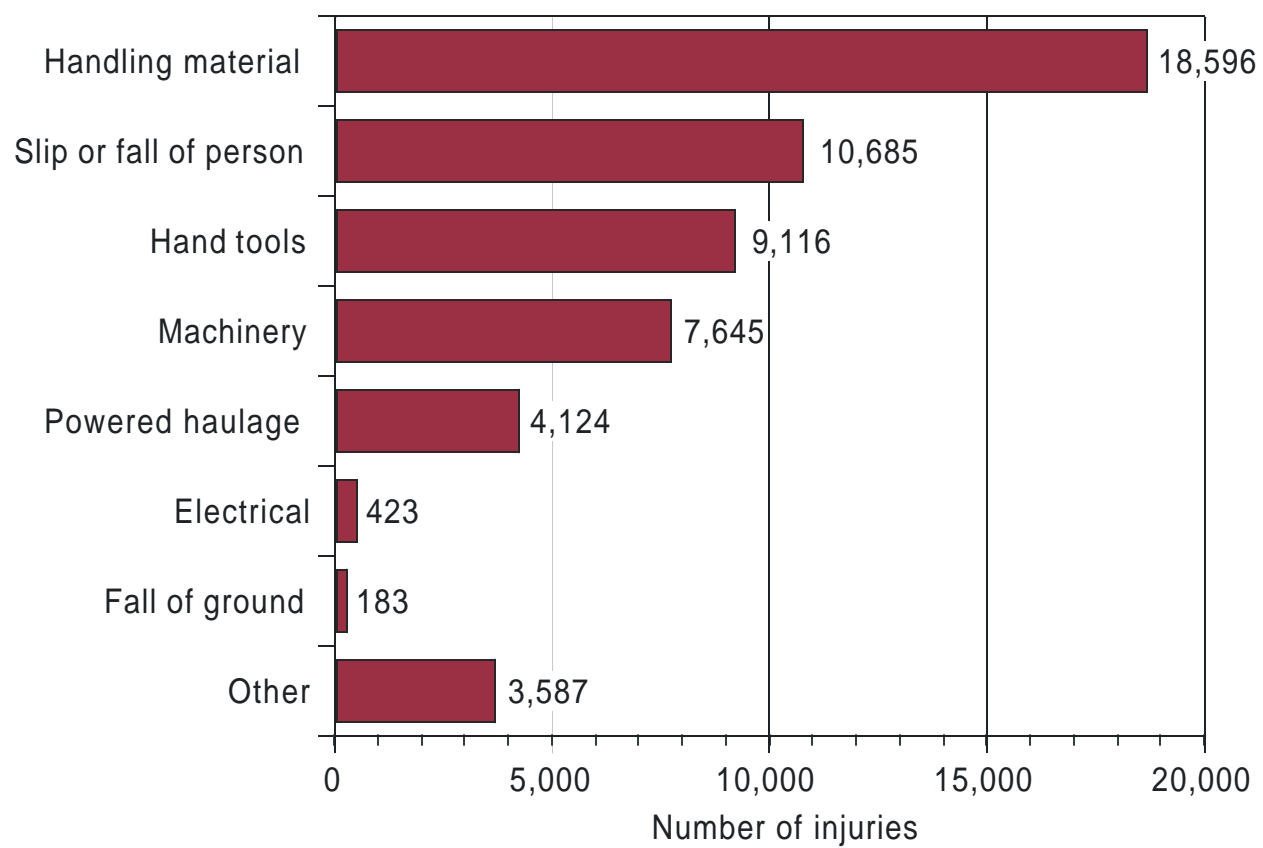


Figure 4D-11.—Stone operators: number of nonfatal injuries by MSHA accident classification, 1986-1995. (Source: MSHA data)

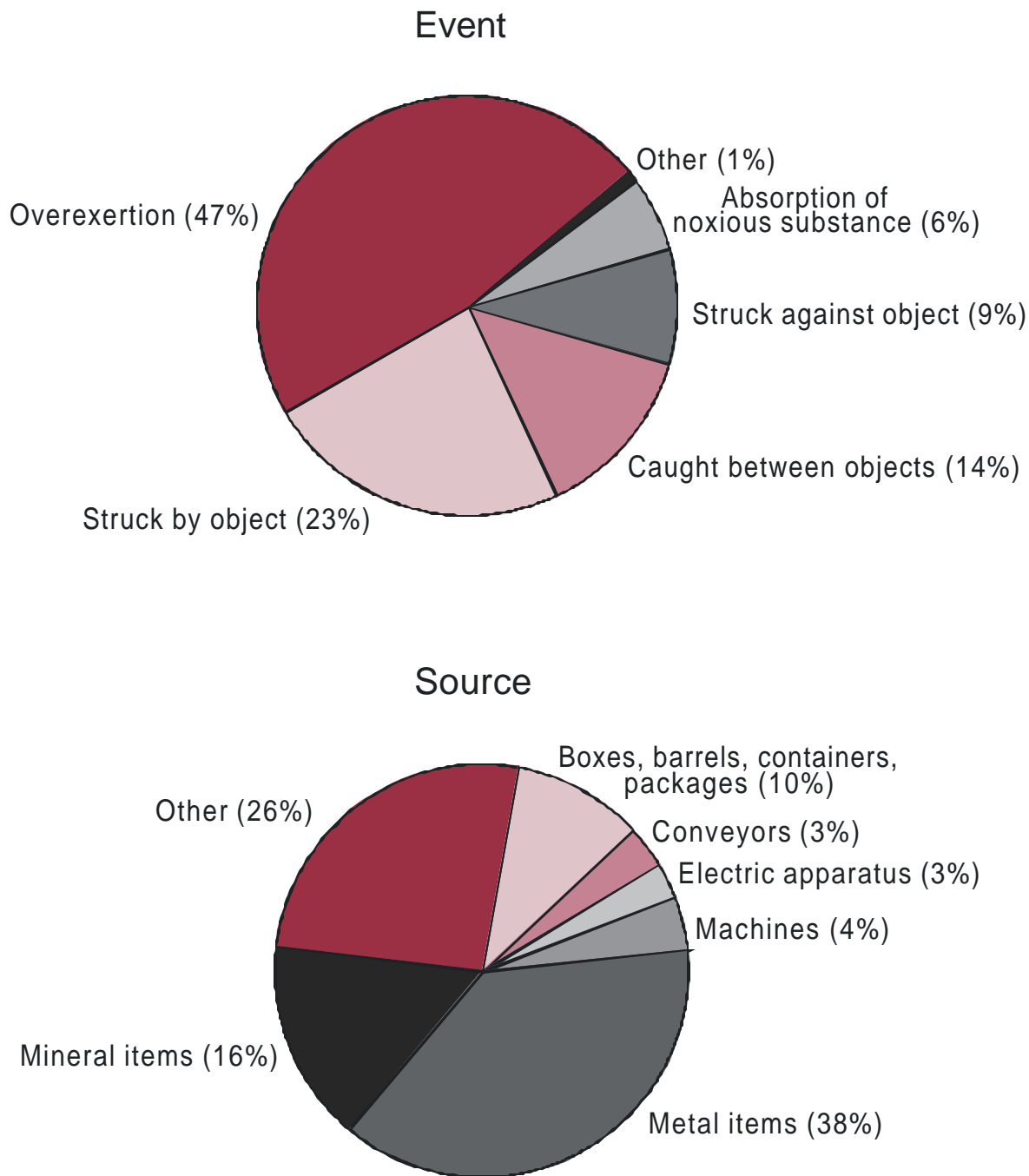


Figure 4D-12.—Stone operators: nonfatal material handling injuries, 1986-1995. Percent of injuries by event resulting in injury and by source of injury (n = 18,596). (Source: MSHA data)

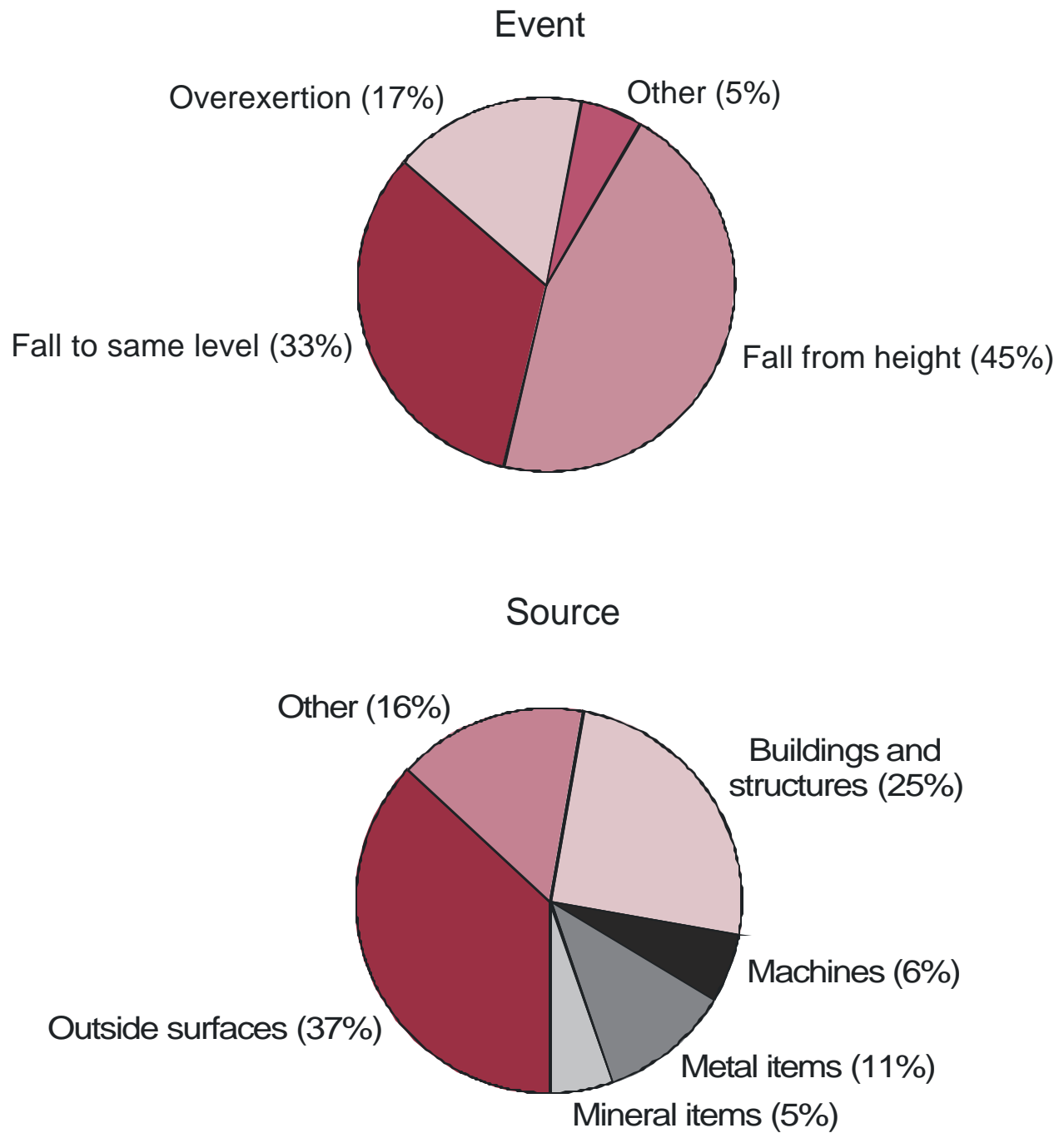


Figure 4D-13.—Stone operators: nonfatal fall injuries, 1986-1995. Percent of injuries by event resulting in injury and by source of injury (n = 10,685). (Source: MSHA data)

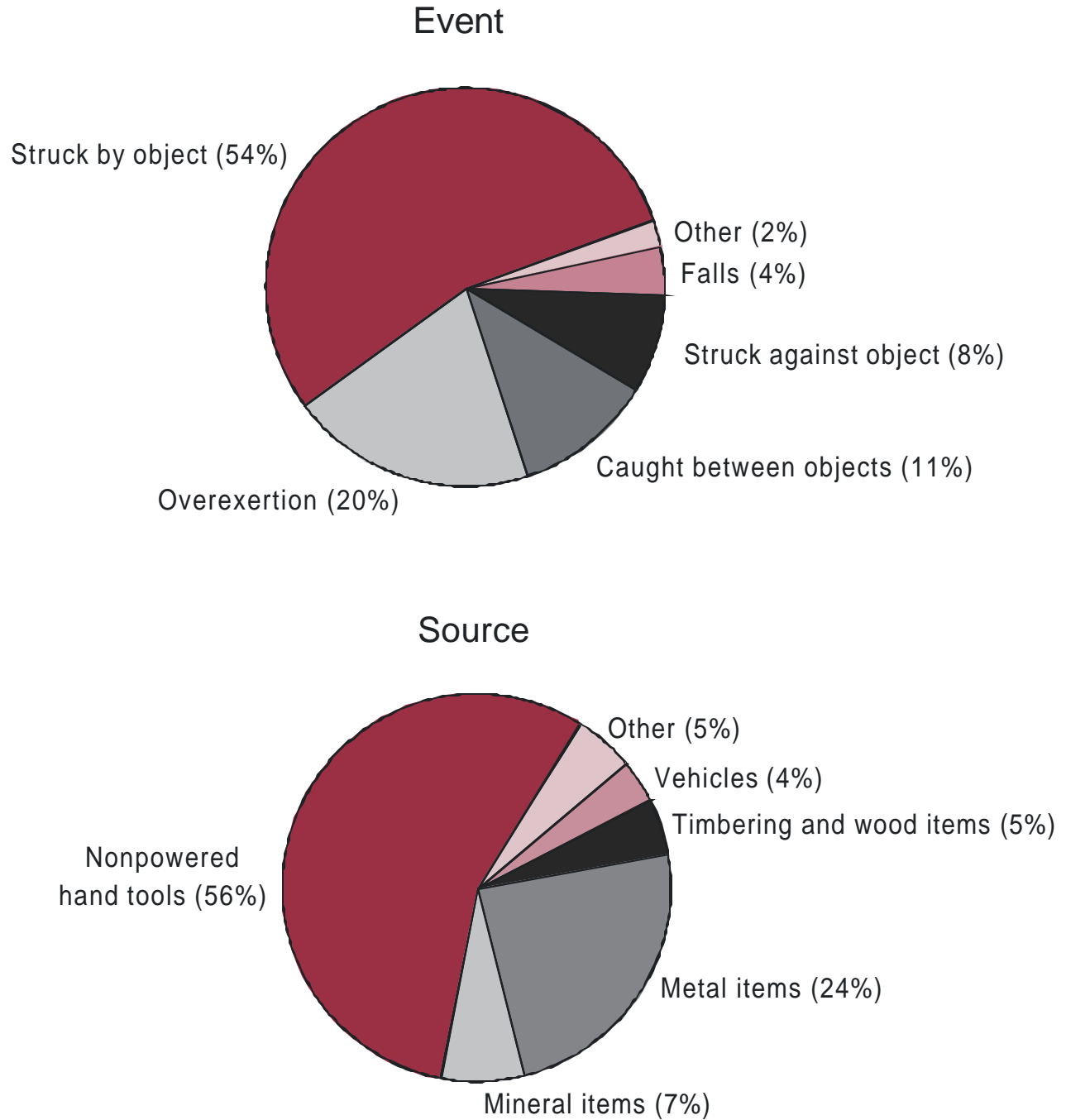


Figure 4D-14.—Stone operators: nonfatal hand tool injuries, 1986-1995. Percent of injuries by event resulting in injury and by source of injury (n = 9, 116). (Source: MSHA data)

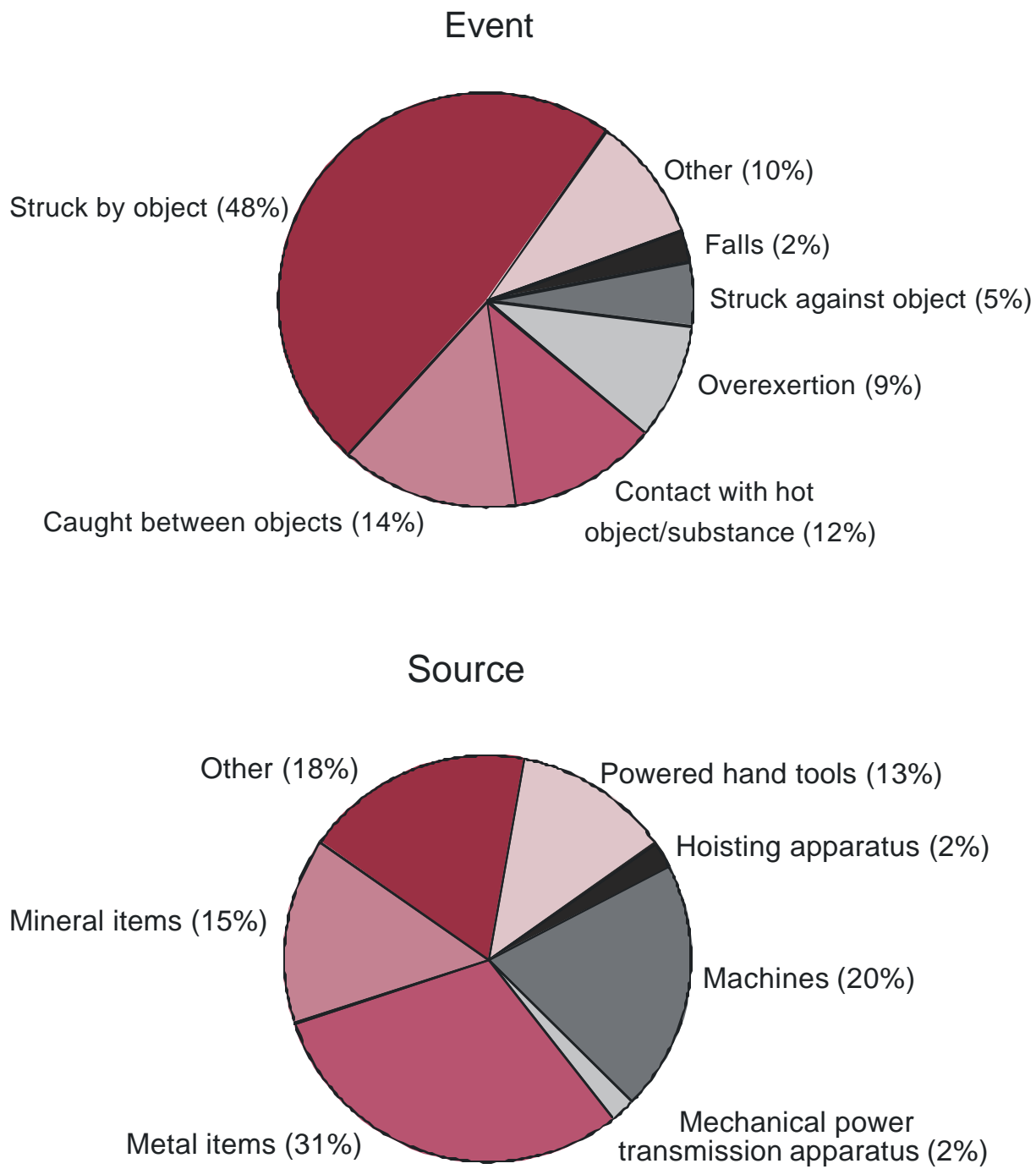


Figure 4D-15.—Stone operators: nonfatal machine injuries, 1986-1995. Percent of injuries by event resulting in injury and by source of injury (n = 7,645). (Source: MSHA data)

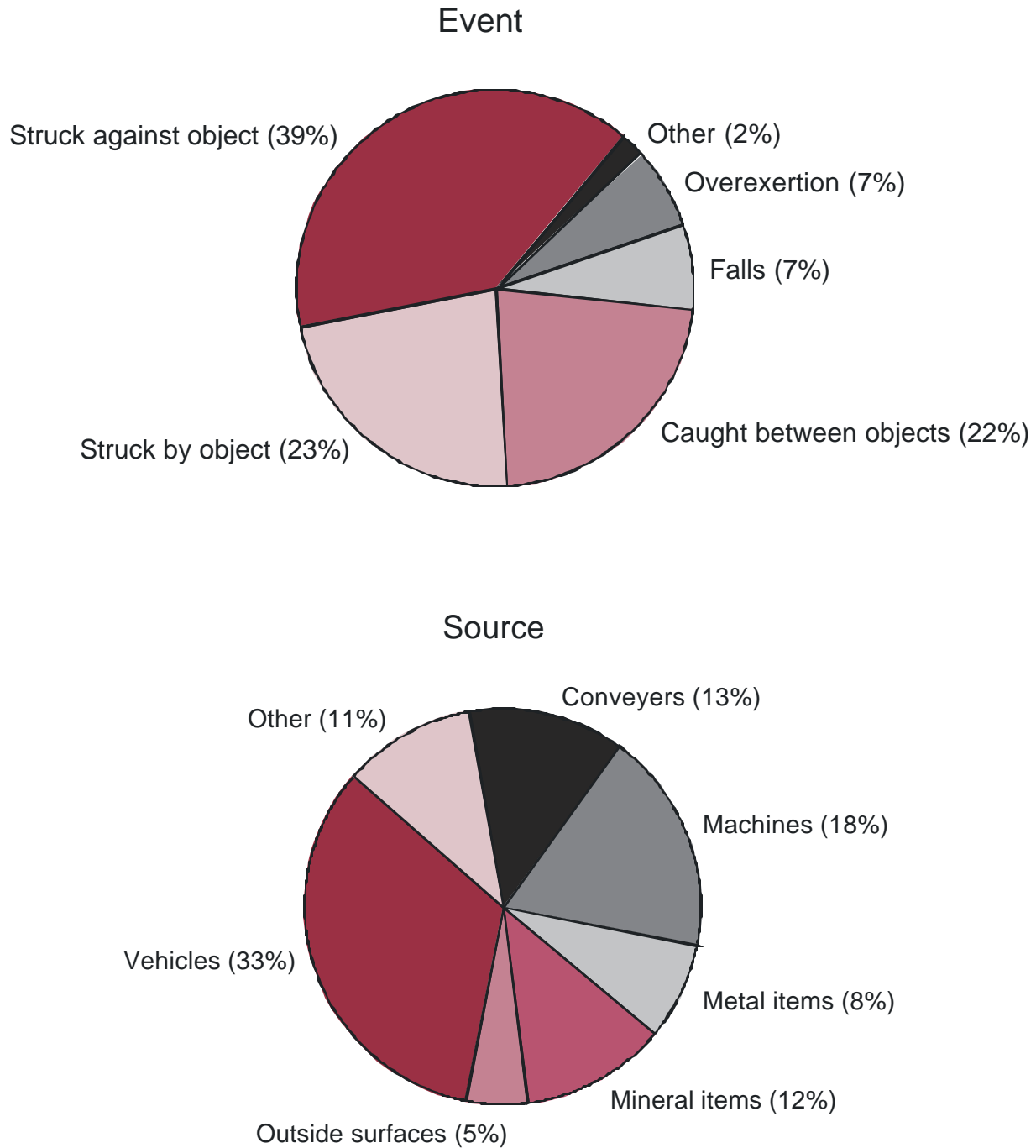


Figure 4D-16.—Stone operators: nonfatal powered haulage injuries, 1986-1995. Percent of injuries by event resulting in injury and by source of injury (n = 4,124). (Source: MSHA data)

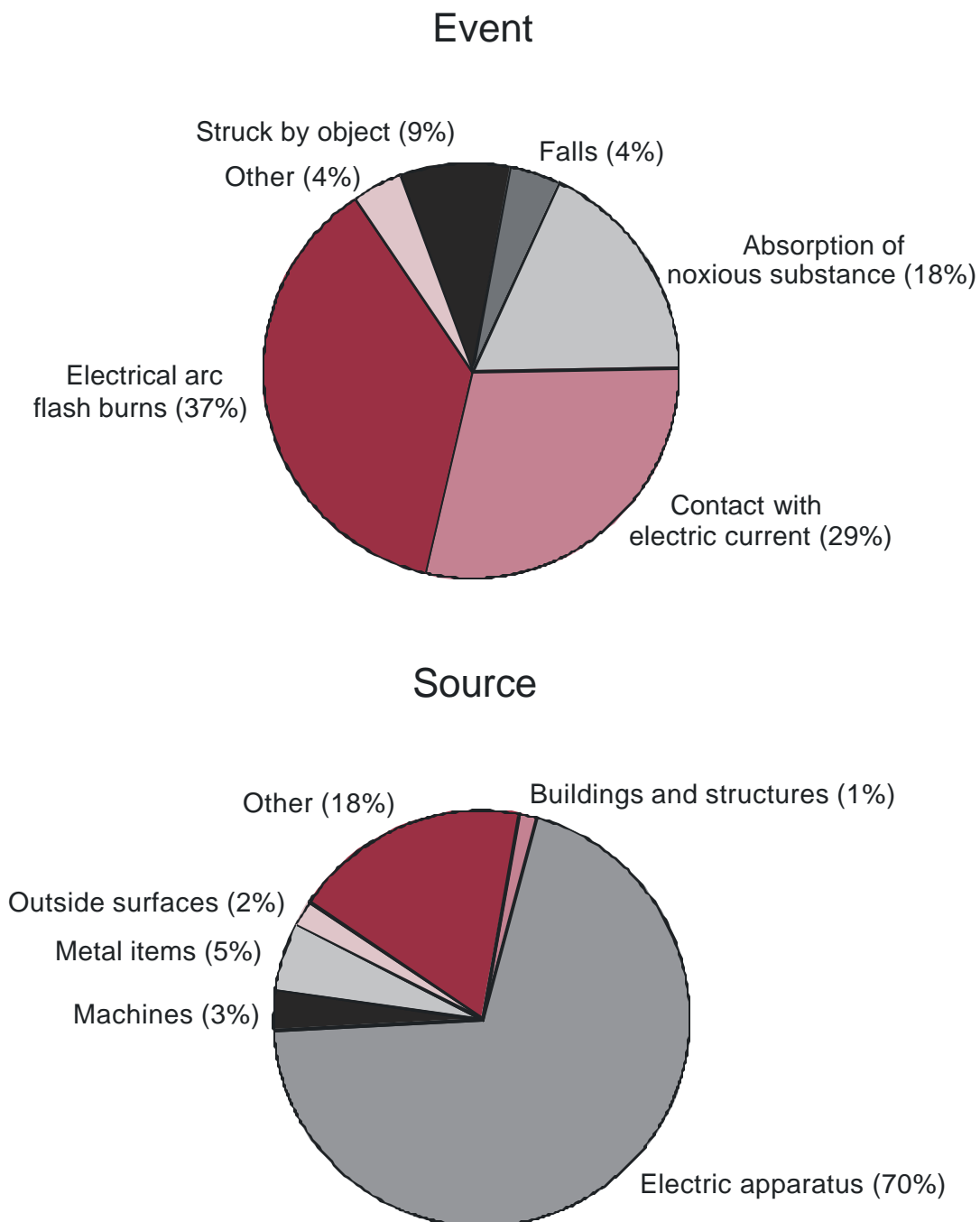


Figure 4D-17.—Stone operators: nonfatal electrical injuries, 1986-1995. Percent of injuries by event resulting in injury and by source of injury (n = 423). (Source: MSHA data)